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Table S1. Summaries of Hierarchical Mixed Models Examining the Relationships between Paternity, Laying Order, Hatch Time, and Offspring Performance

Response	Explanatory	Estimate	SE	χ^2	p
1a. Paternity	***Intercept***	0.291	0.230		
	Relative laying order (RLO)	-2.884	0.412	49.04	<0.001
(mixed paternity clutches)	Clutch size	-0.013	0.085	0.02	0.88
	Year	0.175	0.280	0.39	0.53
n = 55 clutches; 545 eggs	Relative laying date	-0.001	0.032	<0.01	0.97
	Sex	0.005	0.218	<0.01	0.99
	Hatching asynchrony	0.002	0.006	0.07	0.79
	RLO × Clutch size	-0.224	0.256	0.77	0.38
	RLO × Year	-0.359	0.826	0.18	0.67
	RLO × Relative laying date	0.027	0.095	0.08	0.78
	RLO × Sex	0.167	0.842	0.04	0.84
	RLO × Hatch asynchrony	-0.019	0.019	0.96	0.33
	RLO × RLO	1.499	1.554	0.93	0.33
1b. Paternity	***Intercept***	0.245	0.229		
	Actual laying order (ALO)	-0.238	0.035	46.89	<0.001
(mixed paternity clutches)	Clutch size	0.071	0.087	0.67	0.41
	Year	0.154	0.283	0.30	0.58
n = 55 clutches; 545 eggs	Relative laying date	-0.025	0.031	0.21	0.64
	Sex	0.011	0.218	<0.01	0.96
	Hatching asynchrony	0.000	0.006	<0.01	0.99
	ALO × Clutch size	-0.002	0.022	0.01	0.92
	ALO × Year	0.154	0.283	0.30	0.58
	ALO × Relative laying date	-0.002	0.009	0.21	0.65
	ALO × Sex	0.016	0.071	0.05	0.82
	ALO × Hatch asynchrony	-0.002	0.002	0.63	0.43
	ALO × ALO	0.009	0.010	0.82	0.37

2a. Hatch time (h)	***Intercept***	1.382	0.167		
(log transformed)	***Relative laying order (RLO)***	-2.562	0.410	223.11	<0.001
	RLO × RLO	4.255	0.334	162.21	<0.001
(all broods)	***Hatching asynchrony***	-0.006	0.003	5.43	0.02
n = 121 broods, 1217 chicks	***Hatch asynchrony × RLO***	0.028	0.004	50.22	<0.001
	Sex	0.087	0.052	2.77	0.10
2b. Hatch time (h)	***Intercept***	2.045	0.155		
(mixed paternity broods)	***Paternity***	-0.775	0.168	21.22	<0.001
n = 43 broods, 419 chicks	***Proportion of EPO***	0.351	0.541	0.42	0.52
2c. Hatch time (h)	***Intercept***	0.984	0.226		
(log transformed)	***Paternity***	0.038	0.411	0.01	0.92
(mixed paternity broods)	***Proportion of EPO***	0.422	0.440	0.92	0.34
n = 43 broods, 419 chicks	***Hatching asynchrony***	0.020	0.004	30.94	<0.001
	Hatch asynchrony×Paternity	-0.016	0.007	4.68	0.03
2d. Hatch time (h)	***Intercept***	1.081	0.287		
(log transformed)	***Relative laying order (RLO)***	-2.687	0.712	76.37	<0.001
	RLO * RLO	4.318	0.581	55.29	<0.001
(mixed paternity broods)	***Hatching asynchrony***	-0.003	0.005	0.50	0.48
n = 43 broods, 419 chicks	***Hatch asynchrony * RLO***	0.031	0.007	20.48	<0.001
	Paternity	0.078	0.111	0.49	0.48
	Proportion of EPO	-0.338	0.410	0.68	0.41
	Hatch asynchrony×Paternity	-0.003	0.005	0.14	0.71
3a. Survival to day 15	***Intercept***	1.187	0.333		
	Hatch time	-0.035	0.005	50.31	<0.001
(all broods)	***Mean Hatch time***	0.044	0.014	9.59	0.002
	Hatch time × Hatch time	0.00001	0.00016	<0.01	0.96
n = 140 broods, 1309 chicks	Sex	0.192	0.259	0.55	0.46
3b. Survival to day 15	***Intercept***	1.907	0.481		
	Paternity	1.004	0.499	4.04	0.04
(mixed paternity broods)	***Proportion of EPO***	-0.222	1.160	0.04	0.84
	Hatching asynchrony	0.005	0.012	0.19	0.66
n= 49 broods, 452 chicks	Hatch asynchrony×Paternity	-0.015	0.014	1.22	0.27
	Sex	0.045	0.088	0.26	0.61
3c.Survival to day 15	***Intercept***	1.091	0.514		
	Hatch time	-0.020	0.007	7.84	0.005
(mixed paternity broods)	***Mean Hatch time***	0.008	0.021	0.13	0.72
	Hatch time × Hatch time	0.0001	0.0002	0.18	0.67
n= 49 broods, 452 chicks	Sex	0.662	0.414	2.56	0.11
	Paternity	0.358	0.534	0.45	0.50
	Proportion of EPO	0.107	1.201	0.01	0.92
	Hatching asynchrony	0.009	0.013	0.50	0.48
	Hatch asynchrony×Paternity	-0.017	0.014	1.60	0.21

4a. Relative wing length	***Intercept***	-0.078	0.094		
	Hatch time	-0.099	0.006	1972.60	<0.001
(all broods)	***Hatch time × Hatch time***	-0.0003	0.0001	10.65	0.009
n = 120 broods, 949 chicks	***Mean Hatch time***	0.115	0.006	389.94	<0.001
	Sex	0.139	0.085	2.66	0.10
4b. Relative wing length	***Intercept***	0.062	0.241		
	Paternity	0.621	0.300	4.21	0.04
(mixed paternity broods)	***Proportion of EPO***	-0.656	0.919	0.51	0.48
n = 44 broods, 356	Sex	-0.006	0.243	<0.01	0.98
4c. Relative wing length	***Intercept***	0.418	0.392		
	Paternity	-0.953	0.694	1.89	0.17
(mixed paternity broods)	***Proportion of EPO***	-0.531	0.913	0.34	0.60
n = 44 broods, 356	***Hatching asynchrony***	-0.007	0.006	1.53	0.22
	Hatch asynchrony×Paternity	0.029	0.012	6.10	0.01
	Sex	-0.018	0.241	0.01	0.92
4d. Relative wing length	***Intercept***	-0.129	0.106		
	Hatch time	-0.089	0.007	1451.72	<0.001
(mixed paternity broods)	***Hatch time × Hatch time***	-0.0004	0.0001	18.39	<0.001
n = 44 broods, 356 chicks	***Mean Hatch time***	0.119	0.006	378.10	<0.001
	Paternity	-0.156	0.144	1.18	0.28
	Proportion of EPO	-1.153	1.391	0.69	0.41
	Sex	0.108	0.109	0.97	0.32
	Hatching asynchrony	-0.438	0.312	0.01	0.92
	Hatch asynchrony×Paternity	0.005	0.005	0.81	0.37
5a. Relative tarsus length	***Intercept***	-0.219	0.030		
	Hatch time	0.000	0.002	31.43	<0.001
(all broods)	***Hatch time × Hatch time***	-0.0001	0.0000	6.48	0.01
n = 119 broods, 937 chicks	***Mean Hatch time***	0.004	0.002	6.99	0.008
	Sex	0.388	0.025	247.80	<0.001
5b.Relative tarsus length	***Intercept***	-0.173	0.037		
	Paternity	0.152	0.046	10.73	0.001
(mixed paternity broods)	***Proportion of EPO***	-0.245	0.142	2.99	0.08
n = 44 broods, 354 chicks	***Sex***	0.438	0.037	137.69	<0.001
	Hatching asynchrony	0.000	0.001	0.02	0.88
	Hatch asynchrony×Paternity	0.001	0.002	0.12	0.73
5c.Relative tarsus length	***Intercept***	-0.197	0.036		
	Hatch time	-0.006	0.001	34.35	<0.001
(mixed paternity broods)	***Mean Hatch time***	0.006	0.002	7.55	0.006
n = 44 broods, 354 chicks	***Sex***	0.444	0.036	149.56	<0.001
	Hatch time × Hatch time	-0.0001	0.0000	2.49	0.11
	Paternity	0.082	0.052	3.22	0.07
	Proportion of EPO	-0.205	0.139	2.18	0.14
	Hatching asynchrony	0.001	0.002	0.16	0.69
	Hatch asynchrony×Paternity	-0.001	0.002	0.12	0.73

6a. Relative body mass	***Intercept***	-0.275	0.045		
	Hatch time	0.001	0.003	30.83	<0.001
(all broods)	***Hatch time × Hatch time***	-0.0001	0.0000	6.79	0.009
	Mean Hatch time	0.007	0.003	7.74	0.005
n = 119 broods, 937 chicks	***Sex***	0.448	0.037	149.14	<0.001
6b. Relative body mass	***Intercept***	-0.171	0.085		
	Paternity	0.179	0.073	5.96	0.01
(mixed paternity broods)	***Proportion of EPO***	-0.333	0.233	2.05	0.15
	Sex	0.490	0.060	67.28	<0.001
n = 44 broods, 353 chicks	Hatching asynchrony	0.000	0.001	0.02	0.89
	Hatch asynchrony×Paternity	0.001	0.003	0.15	0.70
6c. Relative body mass	***Intercept***	-0.228	0.056		
	Hatch time	0.001	0.004	35.03	<0.001
(mixed paternity broods)	***Hatch time × Hatch time***	0.0001	0.0001	7.84	0.005
	Mean Hatch time	0.008	0.003	7.74	0.005
n = 44 broods, 353 chicks	***Sex***	0.474	0.052	82.55	<0.001
	Paternity	0.109	0.065	2.79	0.09
	Proportion of EPO	-0.233	0.200	1.37	0.24
	Hatching asynchrony	0.001	0.002	0.11	0.74
	Hatch asynchrony×Paternity	-0.001	0.003	0.07	0.79

All models included clutch/brood and egg/chick identities as random parameters (see Experimental Procedures for model details and derivation of variables). The morphological variables (wing length, tarsus length and body mass) were measured when the oldest chicks in the brood were 15 days old and were quantified relative to the other chicks in the same brood (i.e. centred about the brood mean – see Experimental Procedures). The categorical variable 'Paternity' shows extra-pair offspring relative to within-pair offspring, while the categorical variable 'Sex' show males relative to females. Binomial response models were fitted for Paternity (models 1a and 1b) and Survival (models 3a-3c), while the remaining models were fitted as normal response (see Experimental Procedures). Hatch time was log-transformed in models 2a-2d. Variables included in final models are shown in bold italics. The remaining terms were tested individually in the final model, but rejected because $p > 0.05$. Where squared terms were significant, the χ^2 and p values provided for the linear term show the combined values for both linear and squared terms.